Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): An apparatus for computing a primary path within a network, the network including a plurality of nodes and a plurality of links, the apparatus comprising:

means for identifying a path segment, the means for identifying the path segment being arranged to identify an unprotected path segment included in the primary circuit path that includes at least one protected path segment, the unprotected path segment being defined to include a first unprotected link included in the plurality of links, the unprotected path segment further being defined to enable data to be transferred between a first node and a second node, the first node and the second node being included in the plurality of nodes, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in the at least one protected path segment as being unavailable for selection; and

means for validating, the means for validating being arranged to determine whether [[when]] the network includes a first alternate path segment that corresponds to the unprotected path segment, the first alternate path segment being arranged to enable data to be at least partially transferred between the first node and the second node, wherein if [[when it is determined that]] the network includes the first alternate path segment, the first unprotected link is added to the primary circuit path.

Claim 2 (original): An apparatus according to claim 1 further including:

means for identifying a link, the means for identifying the link being arranged to identify the first unprotected link to be included in the primary circuit path.

Claim 3 (currently amended): An apparatus according to claim 2 wherein if [[when it is determined that]] the network does not include the first alternate path segment, the first unprotected link is not included in the primary circuit path, and the means for identifying the link

further identifies a second unprotected link included in the plurality of links to be included in the primary circuit link.

Claim 4 (currently amended): An apparatus according to claim 2 wherein the means for identifying the link is further arranged to add the first unprotected link to the primary circuit path if [[when it is determined that]] the network includes the first alternate path segment.

Claim 5 (original): An apparatus according to claim 2 wherein the unprotected path segment includes

at least a second unprotected link included in the plurality of links.

Claim 6 (original): An apparatus according to claim 2 wherein the means for validating is further arranged to determine when the first unprotected link is protectable.

Claim 7 (currently amended): A method for creating a circuit path within a network, the network including a plurality of nodes and a plurality of links, the method comprising:

selecting a first unprotected link from the plurality of links, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in at least one protected path segment of the circuit path as being unavailable for selection;

identifying a first potential unprotected path segment, the first potential unprotected path segment including at least the first unprotected link, the first potential unprotected path segment further being arranged between a first node of the plurality of nodes and a second node of the plurality of nodes;

automatically determining whether [[when]] the first potential unprotected path segment has a corresponding first alternate path segment, the first alternate path segment being arranged between the first node and the second node, the first alternate path segment being automatically determined using the blocked list;

adding the first unprotected link to the first potential unprotected path segment if ~~when it is determined that~~ the first potential unprotected path segment has a corresponding first alternate path segment; and

designating the first potential unprotected path segment as an unprotected path segment of the circuit path when the first unprotected link is added to the first potential unprotected path segment.

Claim 8 (original): A method as recited in claim 7 wherein the first potential unprotected path segment includes at least a second unprotected link included in the plurality of links.

Claim 9 (currently amended): A method as recited in claim 7 wherein if ~~when it is determined that~~ the first potential unprotected path segment does not have a corresponding first alternate path segment, the first unprotected link is not added to the first potential unprotected path segment.

Claim 10 (currently amended): A method as recited in claim 9 wherein when it is determined that the first potential unprotected path segment does not have a corresponding first alternate path segment, the method further includes:

selecting a second unprotected link from the plurality of links;

identifying a second potential unprotected path segment, the second unprotected path segment including at least the second unprotected link, the second potential unprotected path segment further being arranged between the first node and the second node; and

automatically determining when the second potential unprotected path segment has a corresponding second alternate path segment using the blocked list, the second alternate path segment being arranged between the first node and the second node.

Claim 11 (currently amended): A computer program product embodied on a computer-readable medium for creating a circuit path within a network, the network including a plurality of nodes and a plurality of links, the computer program product comprising:

computer code that causes a first unprotected link to be selected from the plurality of links, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in at least one protected path segment of the circuit path as being unavailable for selection;

computer code that causes a first potential unprotected path segment to be identified, the first potential unprotected path segment including at least the first unprotected link, the first potential unprotected path segment further being arranged between a first node of the plurality of nodes and a second node of the plurality of nodes;

computer code that causes a determination of when the first potential unprotected path segment has a corresponding first alternate path segment, the first alternate path segment being arranged between the first node and the second node, the first alternate path segment being automatically determined using the blocked list;

computer code that causes the first unprotected link to be added to the first potential unprotected path segment when it is determined that the first potential unprotected path segment has a corresponding first alternate path segment; and

computer code that causes the first potential unprotected path segment to be designated as an unprotected path segment of the circuit path when the first unprotected link is added to the first potential unprotected path segment~~; and~~

~~a computer-readable medium that stores the computer codes~~.

Claim 12 (original): A computer program product as recited in claim 11 wherein the first potential unprotected path segment includes at least a second unprotected link included in the plurality of links.

Claim 13 (currently amended): A computer program product as recited in claim 11 wherein if ~~when it is determined that~~ the first potential unprotected path segment does not have a corresponding first alternate path segment, the first unprotected link is not added to the first potential unprotected path segment.

Claim 14 (currently amended): A computer program product as recited in claim 13 wherein if ~~when it is determined that~~ the first potential unprotected path segment does not have a corresponding first alternate path segment, the computer program product further includes:

computer code that causes a second unprotected link to be selected from the plurality of links;

computer code that causes a second potential unprotected path segment to be identified, the second unprotected path segment including at least the second unprotected link, the second potential unprotected path segment further being arranged between the first node and the second node; and

computer code that causes a determination to be made regarding whether [[when]] the second potential unprotected path segment has a corresponding second alternate path segment, the second alternate path segment being arranged between the first node and the second node.

Claim 15 (original): A computer program product as recited in claim 11 wherein the computer-readable medium is one selected from the group consisting of a hard disk, a CD-ROM, a DVD, a computer disk, a tape drive, and a computer memory ~~, and a data signal embodied in a carrier wave~~.

Claim 16 (currently amended): A system for routing a primary path, the system comprising:

computer code that causes a path segment to be identified, the computer code that causes the path segment to be identified being arranged to identify an unprotected path segment included in the primary circuit path, the primary circuit path being arranged to include at least one protected path segment, the unprotected path segment being defined to include a first unprotected link included in the plurality of links, the unprotected path segment further being defined to enable data to be transferred between a first node and a second node, the first node and the second node being included in the plurality of nodes, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in the at least one protected path segment of the circuit path as being unavailable for selection;

computer code that validates, the computer code that validates being arranged to determine if [[when]] the network includes a first alternate path segment that corresponds to the unprotected path segment, the first alternate path segment being arranged to enable data to be at least partially transferred between the first node and the second node, wherein if [[when it is determined that]] the network includes the first alternate path segment, the first unprotected link is added to the primary circuit path;

a computer-readable medium that stores the computer codes; and

a processor that executes the computer codes.

Claim 17 (original): A system according to claim 16 further including:

computer code that causes a link to be identified, the computer code that causes the link to be identified being arranged to identify the first unprotected link to be included in the primary circuit path.

Claim 18 (currently amended): An system according to claim 17 wherein if ~~when it is determined that~~ the network does not include the first alternate path segment, the first unprotected link is not included in the primary circuit path, and the computer code that causes the link to be identified identifies a second unprotected link included in the plurality of links to be included in the primary circuit path.

Claim 19 (currently amended): A method for creating a circuit path within a network, the network including a plurality of nodes and a plurality of links, the method comprising:

identifying a first potential unprotected path segment, the first potential unprotected path segment including at least a first unprotected link, the first potential unprotected path segment further being arranged between a first node of the plurality of nodes and a second node of the plurality of nodes, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in the at least one protected path segment as being unavailable for selection;

determining whether [[when]] the first potential unprotected path segment has a corresponding first alternate path segment, the first alternate path segment being arranged between the first node and the second node; and

adding the first unprotected link to an unprotected segment of the circuit path if ~~when it is determined that~~ the first potential unprotected path segment has the corresponding first alternate path segment.

Claim 20 (original): A method as recited in claim 19 wherein the first potential unprotected path segment includes the unprotected segment of the circuit path.

Claim 21 (currently amended): A method as recited in claim 19 wherein if ~~when it is determined that~~ the first potential unprotected path segment does not have the corresponding first alternate path segment, the method further includes:

identifying a second potential unprotected path segment, the second potential unprotected path segment including a second unprotected link;

determining when the second potential unprotected path segment has the corresponding first alternate path segment, the first alternate path segment being arranged between the first node and the second node; and

adding the second unprotected link to the unprotected segment of the circuit path if ~~when it is determined that~~ the second potential unprotected path segment has the corresponding first alternate path segment.

Claim 22 (original): A method as recited in claim 21 wherein the second potential unprotected path segment includes the unprotected segment of the circuit path.

Claim 23 (original): A method as recited in claim 19 wherein determining when the first potential unprotected path segment has the corresponding first alternate path segment includes substantially automatically determining when the first potential unprotected path segment has the corresponding first alternate path segment.

Claim 24 (currently amended): A computer program product embodied on a computer-readable medium for creating a circuit path within a network, the network including a plurality of nodes and a plurality of links, the computer program product comprising:

computer code that causes a first potential unprotected path segment to be identified, the first potential unprotected path segment including at least a first unprotected link, the first potential unprotected path segment further being arranged between a first node of the plurality of nodes and a second node of the plurality of nodes, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in at least one protected path segment of the circuit path as being unavailable for selection;

computer code that causes a determination to be made regarding when the first potential unprotected path segment has a corresponding first alternate path segment, the first alternate path segment being arranged between the first node and the second node; and

computer code that causes the first unprotected link to be added to an unprotected segment of the circuit path if [[when it is determined that]] the first potential unprotected path segment has the corresponding first alternate path segment~~; and~~

~~a computer-readable medium that stores the computer codes~~.

Claim 25 (original): A computer program product as recited in claim 24 wherein the first potential unprotected path segment includes the unprotected segment of the circuit path.

Claim 26 (currently amended): A computer program product as recited in claim 25 wherein if ~~when it is determined that~~ the first potential unprotected path segment does not have the corresponding first alternate path segment, the computer program product further includes:

computer code that causes a second potential unprotected path segment to be identified, the second potential unprotected path segment including a second unprotected link;

computer code that causes a determination to be made regarding if [[when]] the second potential unprotected path segment has the corresponding first alternate path segment, the first alternate path segment being arranged between the first node and the second node; and

computer code that causes the second unprotected link to be added to the unprotected segment of the circuit path if ~~when it is determined~~ that the second potential unprotected path segment has the corresponding first alternate path segment.

Claim 27 (original): A computer program product as recited in claim 24 wherein the computer-readable medium is one selected from the group consisting of a hard disk, a CD-ROM, a DVD, a computer disk, a tape drive, a computer memory, and a data signal embodied in a carrier wave.

Claim 28 (currently amended): An apparatus for computing a primary path within a network, the network including a plurality of nodes and a plurality of links, the apparatus comprising:

a path segment identifying device, the path segment identifying device being arranged to identify an unprotected path segment included in the primary circuit path, the primary circuit path including at least one protected path segment, the unprotected path segment being defined to include a first unprotected link included in the plurality of links, the unprotected path segment further being defined to enable data to be transferred between a first node and a second node, the first node and the second node being included in the plurality of nodes, wherein the first unprotected link is not included in a blocked list, the blocked list being arranged to identify any node of the plurality of nodes and any link of the plurality of links which are included in the at least one protected path segment as being unavailable for selection; and

a validating device, the validating device being arranged to determine when the network includes a first alternate path segment that corresponds to the unprotected path segment, the first alternate path segment being arranged to enable data to be at least partially transferred between the first node and the second node, wherein if [[when it is determined that]] the network includes the first alternate path segment, the first unprotected link is added to the primary circuit path.

Claim 29 (original): An apparatus according to claim 28 further including:

a link identifying device, the link identifying device being arranged to identify the first unprotected link to be included in the primary circuit path.

Claim 30 (original): An apparatus according to claim 29 wherein when it is determined that the network does not include the first alternate path segment, the first unprotected link is not included in the primary circuit path, and the link identifying device identifies a second unprotected link included in the plurality of links to be included in the primary circuit path.

Claim 31 (original): An apparatus according to claim 29 wherein the link identifying device is further arranged to add the first unprotected link to the primary circuit path when it is determined that the network includes the first alternate path segment.

Claim 32 (original): An apparatus according to claim 29 wherein the validating device is further arranged to determine when the first unprotected link is protectable.

Claim 33 (original): An apparatus according to claim 32 wherein the first unprotected link is arranged between a third node and a fourth node, and determining when the first unprotected link is protectable includes determining when at least one other unprotected links included in the plurality of links is suitable for transferring data between the third node and the fourth node.

Claim 34 (original): An apparatus according to claim 29 wherein the unprotected path segment includes at least a second unprotected link included in the plurality of links.

Claim 35 (new): A method as recited in claim 7 wherein the blocked list is further arranged to identify at least one selected from the group including any node of the plurality of nodes or any link of the plurality of links that is required as a part of the circuit path as being unavailable for selection in the first alternate path segment.

Claim 36 (new): A method as recited in claim 7 wherein the blocked list is one selected from the group including a table and an array.